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## A Note on Andamanese Demography

THE ANDAMANESE may be considered to represent the most characteristic group of the isolated pygmy populations of Asia and Oceania. During the course of some millennia it has remained separated from the continent and without external contacts, and is thus likely to exhibit a high level of racial homogeneity. These people led and lead an economically primitive life; they hunt, fish, and collect the products of the jungle.

In earlier times, at least up to the beginning of this century, the Andamanese were considered to be divided into twelve tribes, which inhabited different parts of the Islands. They adhered to their own recognized territorial limits and had little or no connection with each other. Not only was there inter-tribal hostility, but they were also constantly aggressive to all strangers landing on the Islands. This explains the lack of contact with the Europeans and Indians who have now settled on parts of the archipelago.

An estimate of the total Andamanese population has never been accurately ascertained. At the first Census taken in the Archipelago in 1901, the few hundreds belonging to the so-called "friendly tribes" were enumerated. In contrast, the "hostile-tribes" lived deep in jungle and on the southern islands, and their numbers have always been very uncertain. At the 1901 Census and at the successive decennial Censuses, the Andamanese have, therefore, been divided into the two fundamental groups, the "friendly", and "hostile" tribes. The denominations of the latter were practically unknown, but they were indicated as Jarawa and Onge. In Table 1 I give the essential data concerning the *de facto* population and a development of the figures concerning the "friendly tribes" is shown in Table 2.

The data (with the exception of that from the 1901 Census) show that there was a larger number of females than of males. Such an inequality is probably due to various

TABLE 1  
*Andamanese population estimates*

YEAR *	TOTAL	POPULATION			
		Tribes, so-called			
		Friendly	Hostile ‡		
			Jarawa	Onge	Sentinel Islanders§
1858	4800	1440	1152	1584	624
1901	2092	625	500	672	295
1911	1643	455	440	631	117
1921	1346	209	420	600	117
1931	1170	74 †	416	580	100
1941	1102	62	380	570	90
1951-1955	1000	23	350	550	77

\* Census years, excepting 1858.

† Including 16 hybrids.

‡ Estimated figures.

§ Onges or Jarawas. Sentinel Island was not continuously occupied.

elements favourable to the females, in that they did not participate in tribal wars, generally avoided the accidents associated with hunting and fishing, carried out lighter and less dangerous tasks, and were considerably protected by their husbands.

Owing to the small number of individuals in each tribe, the sex-ratio (males per 100 females) is not statistically significant. In the 1901 Census this ratio was 115.5, which perhaps gives a fairly true picture; but in the subsequent Censuses the ratio figures are no longer indicative, changing to 94.4 in 1911, and 99.0 in 1921; and going down to 57.4 in 1931. The sex-balance seems better in the group comprising the four Northern tribes (Yere, Tabo, Kora, and Chariar), in which the ratio was 113.3 in 1901. This relation is reversed, as in the preceding case, in 1931 with the figures of 56.5. Taking adults only, the difference was even greater; 111.5 in 1901, and 48.8 in 1931. For the children, the ratio in 1901 was 132.1 and in 1931, 120.0.

TABLE 2  
*Andananese population estimates of the so-called "friendly" tribes  
at four successive Censuses, by tribes, sex, and age groups*

TRIBES	CENSUSES							
	1901		1911		1921		1931	
	MF	M	MF	M	MF	M	MF	M
Bea	37	17	10	2	1	1	—	—
Balawa	19	8	15	8	4	4	—	—
Bojigyab	50	33	36	24	9	6	1	1
Juwai	48	28	9	4	5	2	—	—
Kol	11	9	2	1	—	—	—	—
Kede	59	27	34	17	6	3	1	—
Yere	198	119	180	92	101	49	34	13
Tabo	68	27	62	25	18	6	6	1
Kora	96	45	71	26	48	19	24	8
Chariar	39	22	36	22	17	14	8	4
Total	625	335	455	221	209	104	74	27
Adults	495	261	359	170	172	84	63	21
Children	130	74	96	51	37	20	11	6

MF = Males + Females; M = Males

The percentage of children at each Census relative to the adult population does not appear abnormal. In fact, three of these values lie in the variation-field of the mean  $\pm 1\sigma$ , the fourth with  $\pm 2\sigma$ . These percentages are: 20.8 in 1901, 21.1 in 1911, 17.7 in 1921, and 19.9 in 1931. Such values can be partially compared with those pertaining to the Onge tribe (which has always been very much isolated), whose percentages are 14.3 in 1901, 31.5 in 1911, and 29.2 in 1921. We can add the value of 28.5 from Cipriani's <sup>3</sup> enumeration in 1954 of the Onges of Little Andaman.

We have no data about the number of families at each Census and we cannot therefore calculate the number of births and children per family, as the Census data represent only the number of surviving children. However, it is possible to estimate the probable number of families or couples (we know that the Andamanese are monogamous) through the number of adult males and females who could mate. These couples were 234 with 130 children at the 1901 Census, 170 with 96 in 1911, 84 with 37 in 1921, and 21 with 11 in 1931. The corresponding values of children per couple are respectively: 0.56, 0.56, 0.44, 0.52. These values are statistically normal, since three of them lie in the variation-field of the mean value  $\pm 1\sigma$ , and the fourth with  $\pm 2\sigma$ . We can add the figure of 0.80 for the Onges of Little Andaman enumerated in 1954 by Cipriani.

Mention might be made here of certain other values from Cipriani's <sup>2, 3</sup> demographic data. He has been able to enumerate 569 Onges, of which 296 were male (204 adult and 92 children) and 273 female (203 adults and 70 children). These Onges then represent 203 couples with 162 children, which gives a ratio of 0.8 children per couple. The general sex-ratio is 108.4, but the figure is particularly influenced by the lack of female children in the group, while the sex-ratio of adults is 100.5. Probably this asymmetry is only apparent, owing to the difficulty in enumerating all the children; the percentage of these to the total of Onges is 28.5.

The investigations made in recent years, and particularly Cipriani's results for the Little Andaman, show that the early evaluations were in default. For instance, he enumerated in 1953-54 more than 500 Onges and calculated their number to be between 500 and 600, whereas the estimated figures at the 1931 Census were 250. It is, therefore, extremely difficult to form a correct or even a reasonable idea about the real population trend.

In my opinion, there are two distinct curves to be considered; one of the so-called "friendly tribes", ending perhaps in their extinction; and the other for the so-called "hostile tribes" (Jarawa and Onge) with a birth/death rate which could even be normal. But yet the general trend appears to be negative. In fact the friendly tribes show a steady decline, easily estimated by the figures in Table 1. During the period 1858-1955 the demographic deficit was so sharp as to reach the 79.2 per cent on the figure of my estimation of the 1958 population.

Indeed the Andamanese population has followed the involutive trend which is characteristic of nearly all isolated racial groups, namely a falling parabola towards extinction. At the beginning of the last century the Andamanese were certainly in a state of demographic equilibrium, both by sex and age groups, but it was a weak equilibrium, which existed and still exists in relation to the environment. In fact, in such primitive populations this equilibrium must balance the demographic density and the area of the territories available for their maintenance.

As the regression of the Andamanese population is similar to that which is nearly always shown by all isolated and peripheral racial groups, we must ascribe it to demographic factors, rather than to biological involution. Therefore, the hypothesis of a diminution of their generative power is highly improbable, although the influence of syphilis on sterility must be considered, as individuals of the so-called friendly tribes were syphilitic. On the same grounds epidemics have had a powerful influence, but always with a very different level of results. That there has been a general line of involution is proved by the fact that the reduction has been constant for each tribe, no matter where its residence.

In 1931 what remained of the so-called friendly tribes—about seventy individuals belonging to the ten old tribes (now reduced to six)—lived in an isolated region, the Ritchie Archipelago. The officers in charge thought to preserve in this way the remnant of the population. But Bonington, in his Report,<sup>1</sup> observed that most of the group showed signs of syphilis and were therefore in bad health. In fact, deaths occurred at the rate of nearly one per month.

What are the causes of such a reduction and consequently of extinction? It is not easy to determine any single cause, but the elements of greater importance are well known and it is also possible to assess, at any rate partially, the relative weight they have had in the demographic regression.

Such elements can be grouped into two categories, not exactly independent, as they often acted on the phenomenon in a convergent sense. The first of these categories I call "demographic", the second, to be termed "environmental", includes the contingent causes. In detail the causes under the latter heading can be grouped into three main categories:

- a. Elements which have indirectly contributed to diminishing the organic resistance of

individuals, as for instance the institution of so-called "homes" (the misplaced feeling of humanitarianism towards the aborigines resulted in the building of huts and shelters, and the distribution of dresses and blankets); *b.* Epidemics which have directly sapped the existence of the primitives, (bronchic-pulmonary affections in 1868, syphilis in 1876, measles in 1877, influenza in 1892); *c.* Long-term disease factors which have contributed and still contribute to lessening the organic resistance of these groups, such as malarial fever, benign bronchial affections, and diseases of the digestive system.

The epidemics eliminated many of reproductive age. For instance Man<sup>5</sup> estimated that, during the measles epidemic of 1877, a fifth of the population died.

The first category, which I have called "demographic", contains the causes which are nearly all present in small isolated populations. These show generally a constant low birth rate, a high mortality rate, and an exceptionally long intergenerational interval, which is strictly connected with the nursing period. Indeed, such an interval would be greater without the heavy infant mortality, which interrupts the nursing period.

But these factors, negative as they are, are even surpassed, in my opinion, by the hyperfractionizing, i.e. the division of the population into tribes, generally observing a close endogamy. In such tiny groups (i.e. the tribes) the demographic composition is always unstable, often a fatal abnormality, because it alters the structure of age groups and distorts the sex-ratio in each tribe, which, being extremely endogamic, has no possibility of interchange with other tribes. This altered condition, in some cases, is increased by geographic distance or isolation. Such tiny groups approach then a breaking point, up to which their own homogeneity has permitted an unstable maintenance of the population structure. Such a structure in the Andamanese population has suffered much from the negative factors, which have all acted in one direction convergently.

Although unable to give data on the Andamanese population decline it is quite possible that the curve of decline started after 1860, that is, following upon and parallel to the numerous epidemics<sup>5</sup>. Undoubtedly, the Andamanese formed, and still form, a typical isolated population. Obviously, the starting point for a demographic study on a primitive group is the so-called "natural or uncontaminated status" in which it has existed without external contacts during rather a long period. Consequently, at least in theory, the demographic phenomena of such a population should be studied and analysed only before or during the period which precedes the eventual contacts.

For the Andamanese we have no satisfactory data about their demographic phenomena, but during Molesworth's<sup>8</sup> work in 1893, in taking many anthropometric measurements (preparatory to the 1901 Census) some demographic data were collected. In such investigation of the vital statistics, 100 females (aged twenty-two to fifty-three, with one aged sixty-five) were questioned in respect to the number of births and husbands they had had and the number of their sons and daughters still living. Five out of the hundred were unmarried; the collected data then concerned the other ninety-five. The results of my analysis can be summarized as follows:

- a.* The total number of births were 149, divided into ninety-two males and fifty-seven females;
- b.* the sex-ratio at birth was 161.4 (per 100 females);
- c.* the value of the average ratio of births per mother was 1.57;
- d.* the survivors at the time of the inquiry were twenty-six (fifteen M. and eleven F.) out of a total of 149 births, i.e. less than a sixth of them, with a mortality ratio of 82.6.

The essential data is shown in Table 3.

The unmarried women were of the following ages: one of 22 years, one of 23, two of 27, one of 36. My conclusions are: firstly, the women of greater age at the moment of the inquiry

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obviously showed a higher fertility. In fact, as the women aged from twenty-three to twenty-seven inclusive (representing 13·7 per cent of the total) had had no births, all the births must perforce be credited to the remaining 86·3 per cent of the women. Therefore, as far as the data indicate, it would appear that the fertile life of the Andamanese woman does not start at a very youthful age. This is a partial confirmation of Day's 4 and Man's 5, 6, 7 judgements, when they pointed to the low fertility of the Andamanese women and their comparatively delayed sexual development.

TABLE 3

*Data concerning the 95 women of the so-called friendly tribes questioned at the Inquiry, by age, number of births, and Fertility Index*

WOMEN				WOMEN				WOMEN			
Age	Total	BIRTHS Total	F.I.	Age	Total	BIRTHS Total	F.I.	Age	Total	BIRTHS Total	F.I.
23	1	0	—	33	2	2	1·00	42	5	8	1·60
25	3	0	—	34	3	4	1·33	43	3	6	2·00
26	5	0	—	35	6	9	1·50	44	1	2	2·00
27	4	0	—	36	3	2	0·66	45	9	24	2·66
28	10	3	0·30	37	5	5	1·00	48	7	22	3·14
29	2	0	—	38	7	20	2·86	50	1	8	8·00
30	4	4	1·00	40	9	21	2·33	52	1	6	6·00
32	2	0	—	41	1	1	1·00	65	1	2	2·00
Total										95	149

Age = Age in years at the time of the Inquiry.

F.I. = Fertility Index (Births per woman of the given age).

At all ages one notes a comparatively low degree of fertility, but on the other hand account must be taken of certain exceptions, as for instance, a woman only once married who had six children and another (twice married) with eight children; against that, there is the woman who, married four times, only gave birth to two children. One might advance the hypothesis that fertility has declined during the course of time and that therefore the older women (for the Andamanese that period begins before forty-five) produced a greater proportion of births than the younger generation. Such a suggestion strikes one with greater force, if the ninety-five females are divided into age-groups. The data show that the fertility rate climbs with the increase of the age of the individual. Apart from the fact that the longer existence of the older women logically produced a larger number of births, the fertility index still shows a puzzling problem difficult to solve. In fact, such an index should have shown no practical difference between the two age groups of forty-one to forty-eight and fifty and over, while the actual figure for the latter is more than double the former.

Evidently the number of husbands belonging to the women examined had its influence on the total fertility. For the 95 women there were 145 husbands. Considering the relative number of husbands and the respective number of births, I conclude: firstly that more than half of these women (55) have had only one husband, not quite a third (31) had married twice, and less than a tenth (8) three times; the number of four husbands is exceptional (only one female in 95). Secondly, I found that the number of births is logically higher for the women who have had two husbands (1·94 births per woman) than for those with only one husband, although the increase is not proportional (1·94 against 1·31). Also the increase in the group with three husbands is not proportional (1·88). The data show that the number of husbands has no markedly relevant influence on the total fertility (see Table 4).

In my opinion, even before the epidemics, there were unstable demographic conditions which tended to start a regression. The few sources of information in our possession seem to confirm my hypothesis. For instance, in the territory around the so-called "homes",

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during the year April 1868–April 1869, fourteen births occurred against thirty-eight deaths. Day informs us that no family has more than two children and Man affirms that each Andamanese couple counted as an average three to four births. He says that he has seen only one family with six children, three of which reached an adult age. Twins were rare, and there is no record that both survived. Man has never known of triplets. Both Man and Day say that there was at birth a slight prevalence of females, that the suckling period was extremely long, three to four years, that puberty was comparatively delayed, that the presumable fertility age was rather short, going from sixteen to thirty-five years, and they estimated an average length of life of twenty-two years, with a limit of less than fifty, which only women reached. My examination of about a hundred skulls confirms this last remark.<sup>9</sup>

TABLE 4

*Data regarding the 95 women of the so-called friendly tribes questioned at the Inquiry, by number of husbands they had, and number of births*

ONE HUSBAND			TWO HUSBANDS			THREE HUSBANDS			FOUR HUSBANDS		
Births			Births			Births			Births		
Total women	per woman	Total	Total women	per woman	Total	Total women	per woman	Total	Total women	per woman	Total
25	0	—	13	0	—	1	0	—	1	2	2
8	1	8	2	1	2	2	1	2			
10	2	20	6	2	12	3	2	6			
7	3	21	2	3	6	1	3	3			
4	4	16	4	4	16	1	4	4			
1	7	7	2	5	10						
			1	6	6						
			1	8	8						
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Total	55		72	31		60	8		15	1	2
Fertility Index		1.31			1.94			1.88			2.00

Of course, the demographic conditions subsequent to the epidemics became worse and worse, with a convergence of negative factors: a very high mortality, which rate I have calculated as being 82.6 per cent, an even greater infant mortality, and a fertility very low or nil. Without affirming that such negative factors affected all the Andamanese, we know that they were shown by the so-called friendly tribes and those who lived in the “homes”. Homfrey notes that in 1866 in the “home” at Port Mouat, fifteen births occurred during three months and not one infant survived. Another source says that in 1870 in another “home” two births a month occurred, but the infants survived a week only.

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